FIG. 1

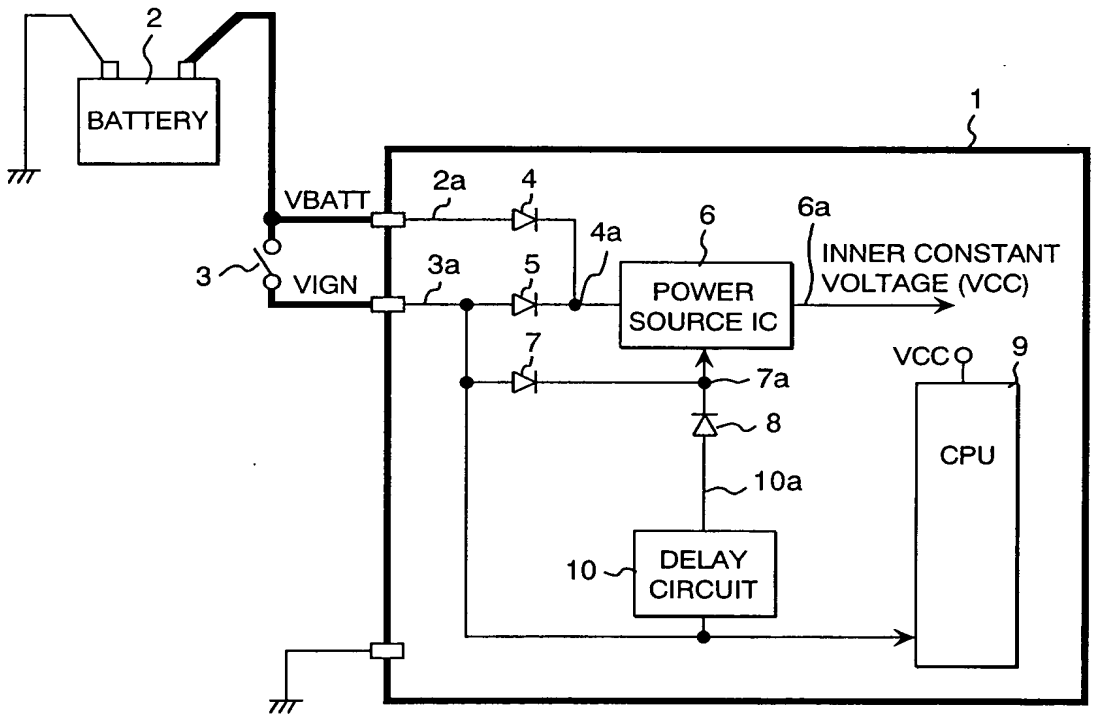
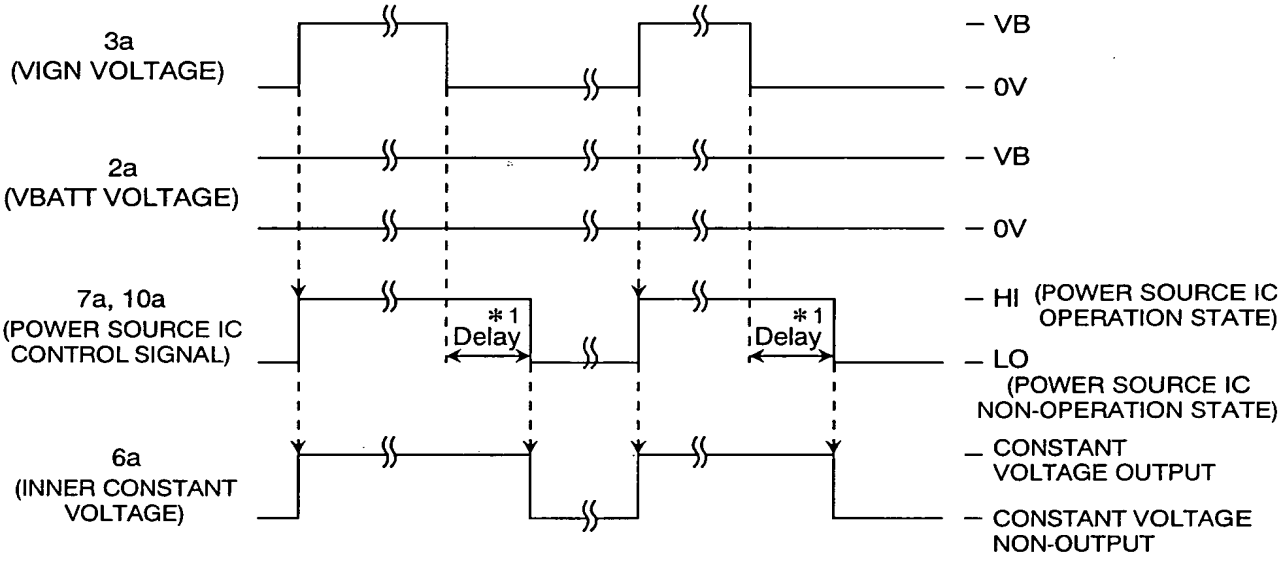

2
BATTERY
1
VBATT
2a
4
6
6a
4a
3
VIGN
3a
5
POWER SOURCE IC
INNER CONSTANT VOLTAGE (VCC)
7
VCC
9
7a
8
CPU
10a
10
DELAY CIRCUIT

FIG. 2



*1 : DELAY TIME NECESSARY FOR THE CPU 9 TO INITIALIZE

FIG. 3

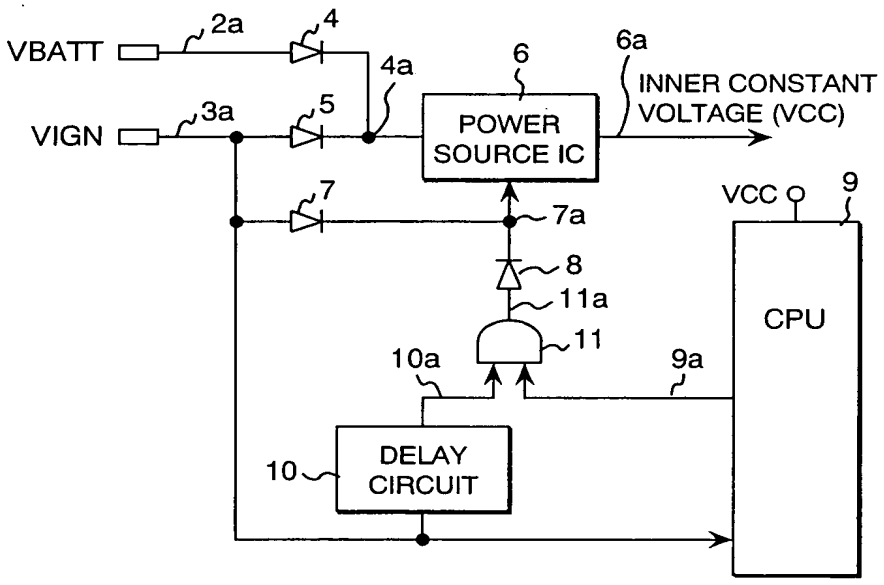
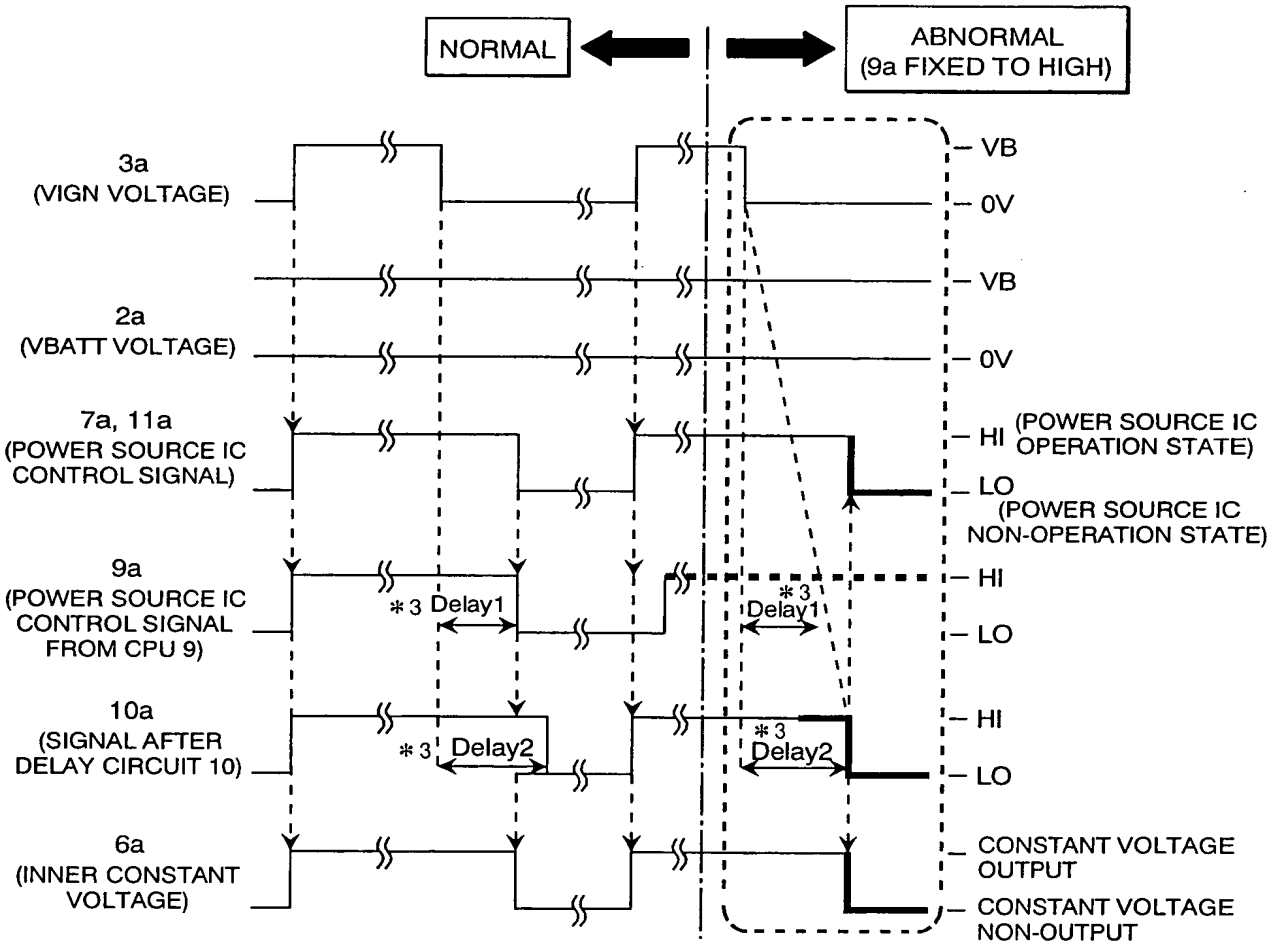

VBATT
2a
4
4a
6
6a
INNER CONSTANT
VOLTAGE (VCC)
VIGN
3a
5
POWER
SOURCE IC
7
7a
VCC
9
8
11a
CPU
11
10a
9a
10
DELAY
CIRCUIT

FIG. 4



*3 DELAY 1: DELAY TIME CALCULATED BY CPU 9
DELAY 2: DELAY TIME DUE TO EXTERNAL HARD CIRCUIT

FIG. 5

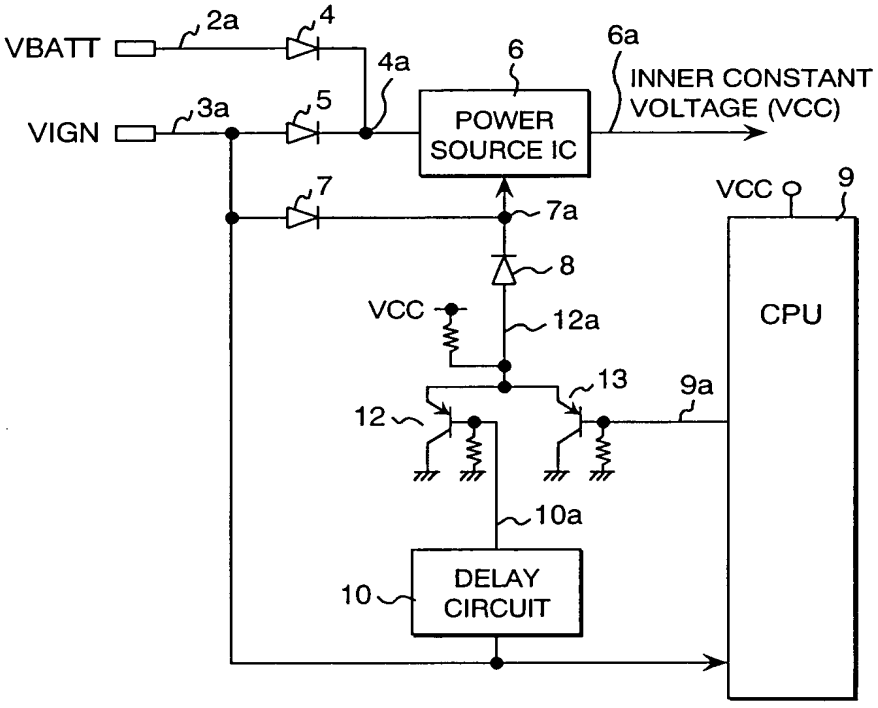

VBATT
2a
4
4a
6
6a
INNER CONSTANT VOLTAGE (VCC)
VIGN
3a
5
POWER SOURCE IC
7
7a
VCC
9
8
VCC
12a
CPU
13
9a
12
10a
DELAY CIRCUIT
10

FIG. 6

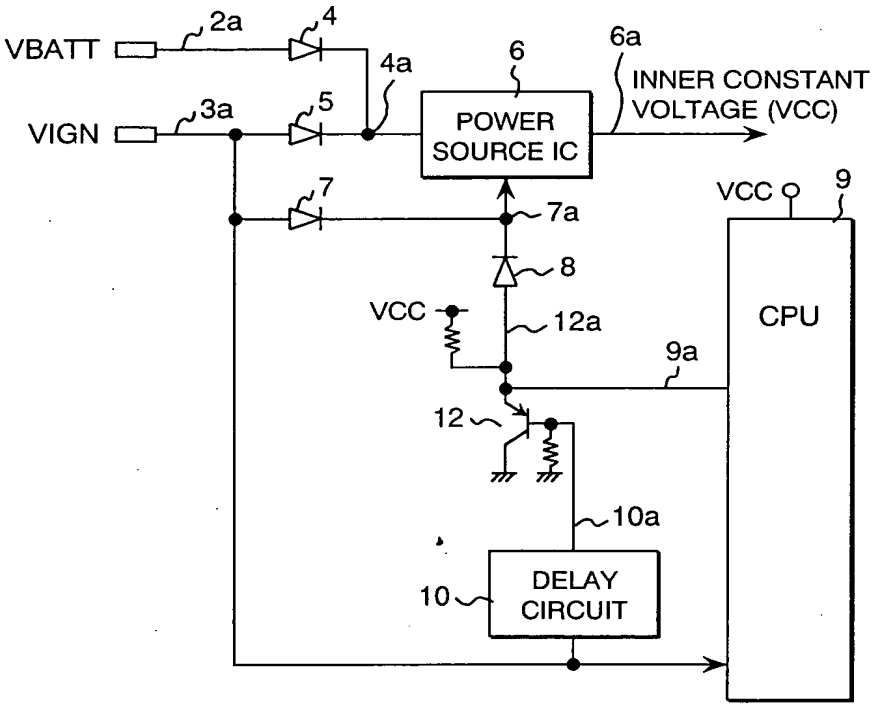

VBATT
2a
4
4a
6
6a
INNER CONSTANT VOLTAGE (VCC)
VIGN
3a
5
POWER SOURCE IC
7
7a
VCC
9
8
VCC
12a
CPU
9a
12
10a
10
DELAY CIRCUIT

FIG. 7

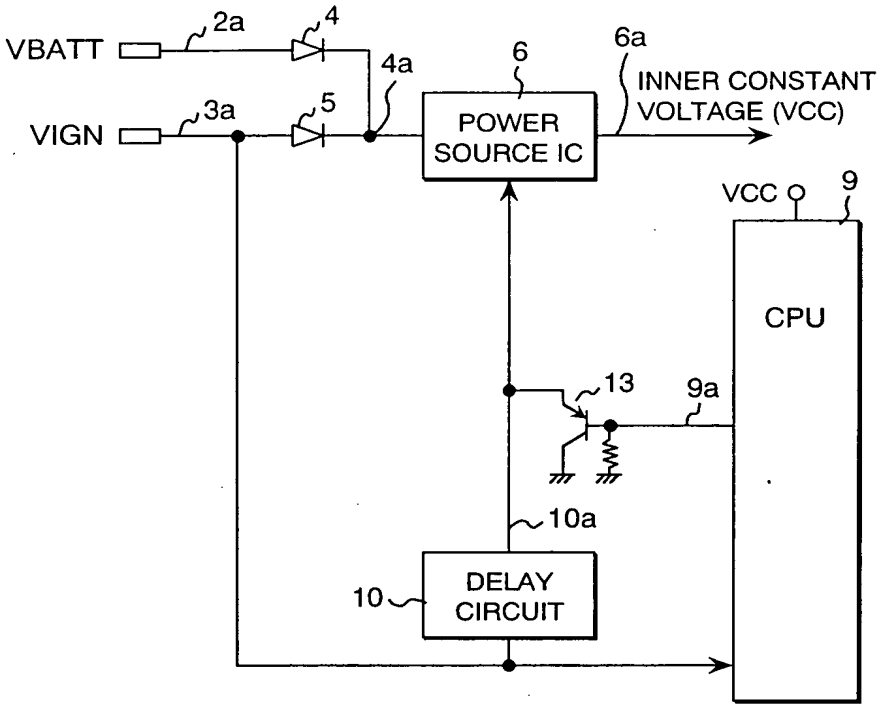

VBATT
2a
4
4a
6
6a
INNER CONSTANT VOLTAGE (VCC)
VIGN
3a
5
POWER SOURCE IC
VCC
9
CPU
13
9a
10a
10
DELAY CIRCUIT

FIG. 8

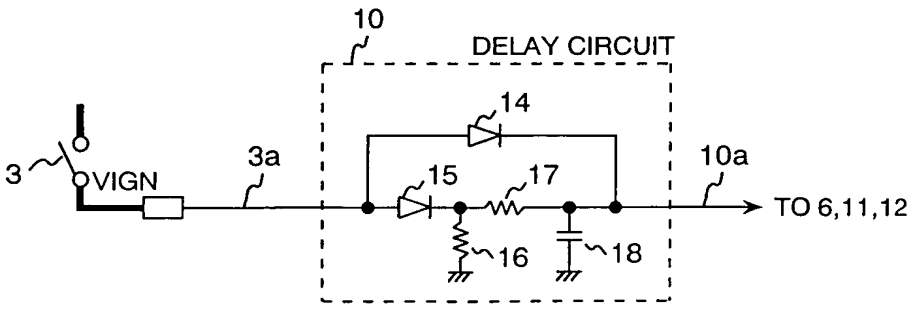

10
DELAY CIRCUIT
14
3
VIGN
3a
15
17
10a
TO 6,11,12
16
18

FIG. 9

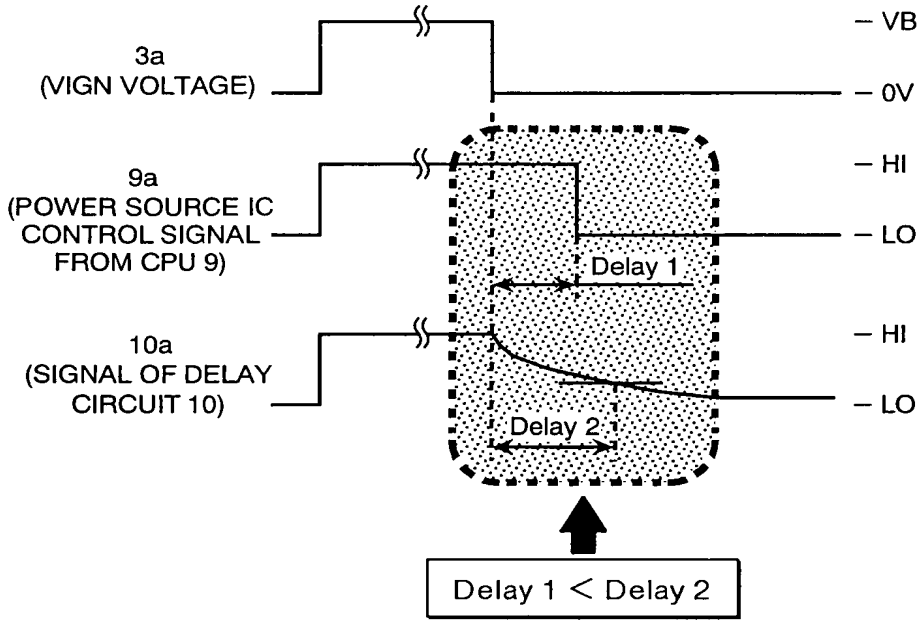

3a
(VIGN VOLTAGE)
9a
(POWER SOURCE IC
CONTROL SIGNAL
FROM CPU 9)
10a
(SIGNAL OF DELAY
CIRCUIT 10)
VB
0V
HI
LO
HI
LO
Delay 1
Delay 2
Delay 1 < Delay 2

FIG. 10

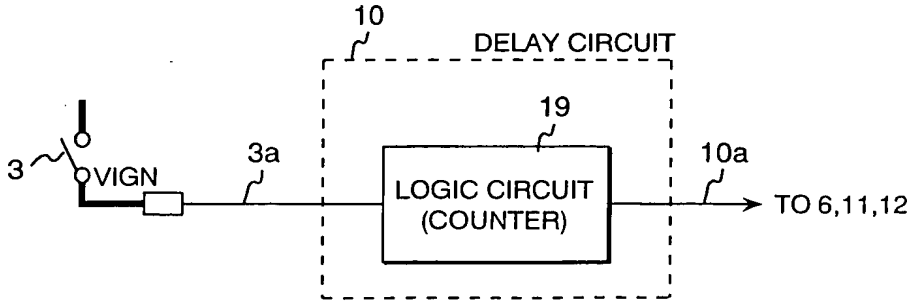

10
DELAY CIRCUIT
19
3
VIGN
3a
LOGIC CIRCUIT
(COUNTER)
10a
TO 6,11,12

FIG. 11

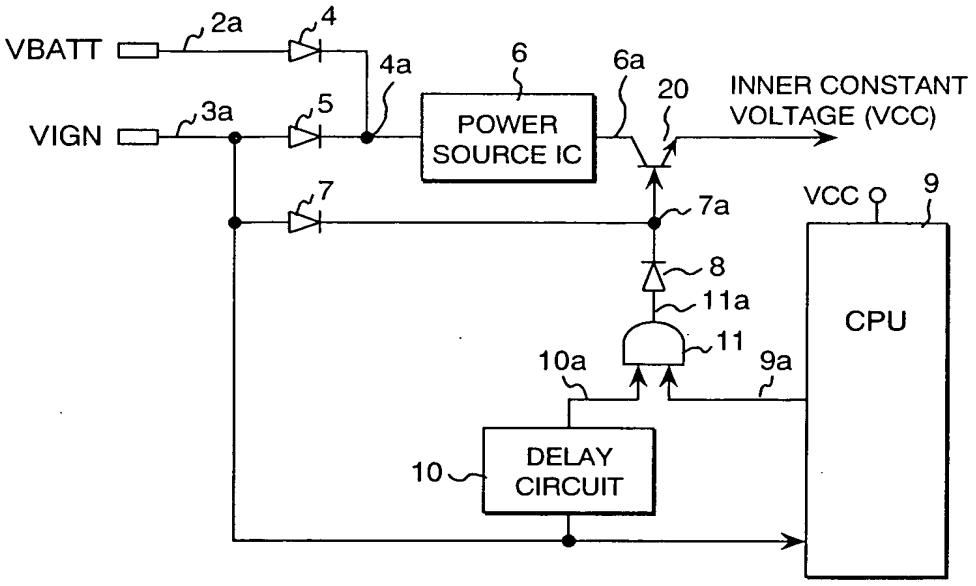

VBATT
2a
4
4a
6
6a
20
INNER CONSTANT VOLTAGE (VCC)
VIGN
3a
5
POWER SOURCE IC
7
7a
VCC
9
8
11a
CPU
11
10a
9a
10
DELAY CIRCUIT

FIG. 12

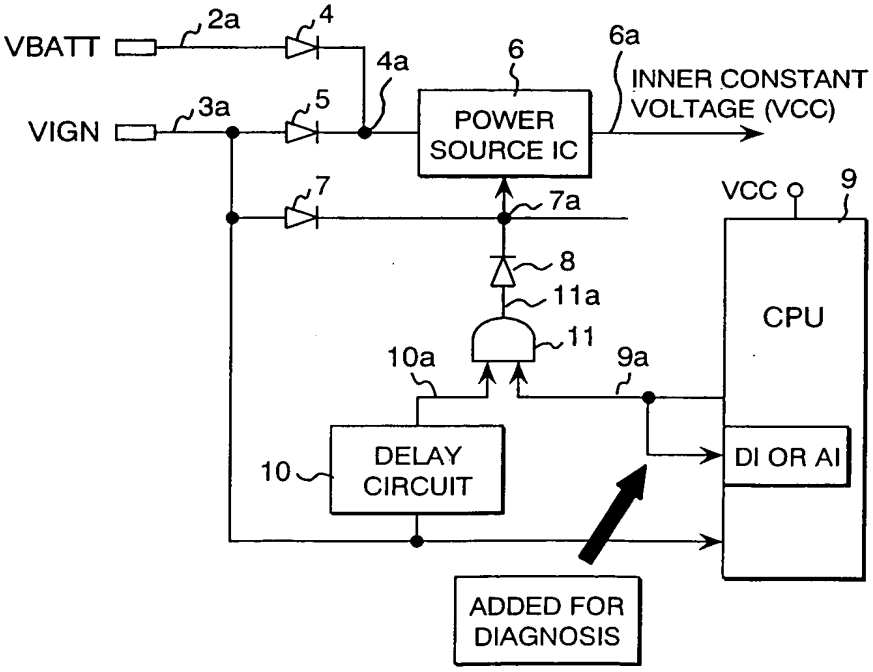

VBATT
2a
4
4a
6
6a
INNER CONSTANT VOLTAGE (VCC)
VIGN
3a
5
POWER SOURCE IC
7
7a
VCC
9
8
11a
CPU
11
10a
9a
10
DELAY CIRCUIT
DI OR AI
ADDED FOR DIAGNOSIS

FIG. 13

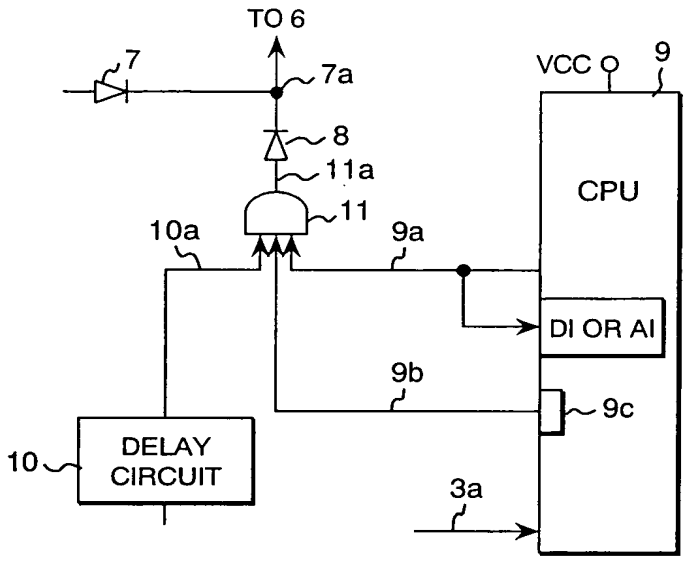


FIG. 14

PRIOR ART

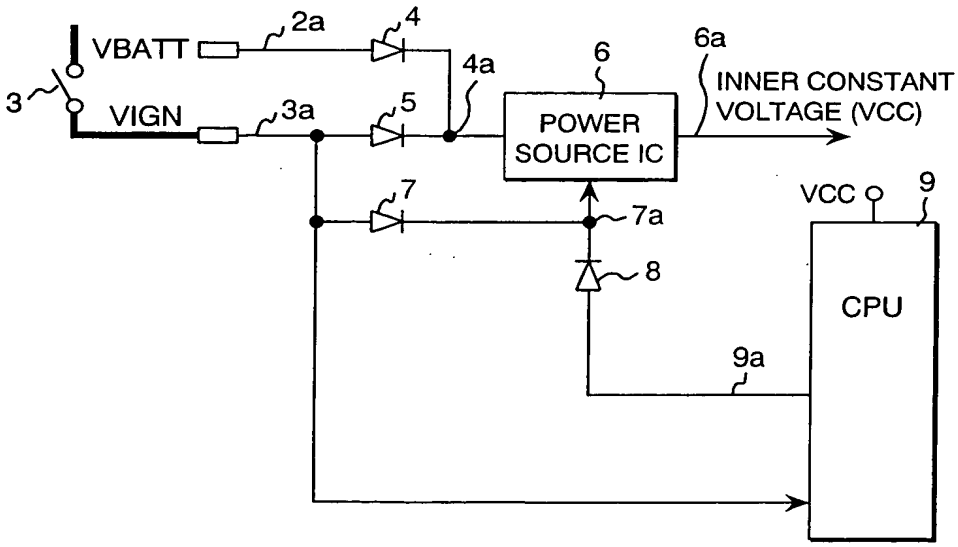
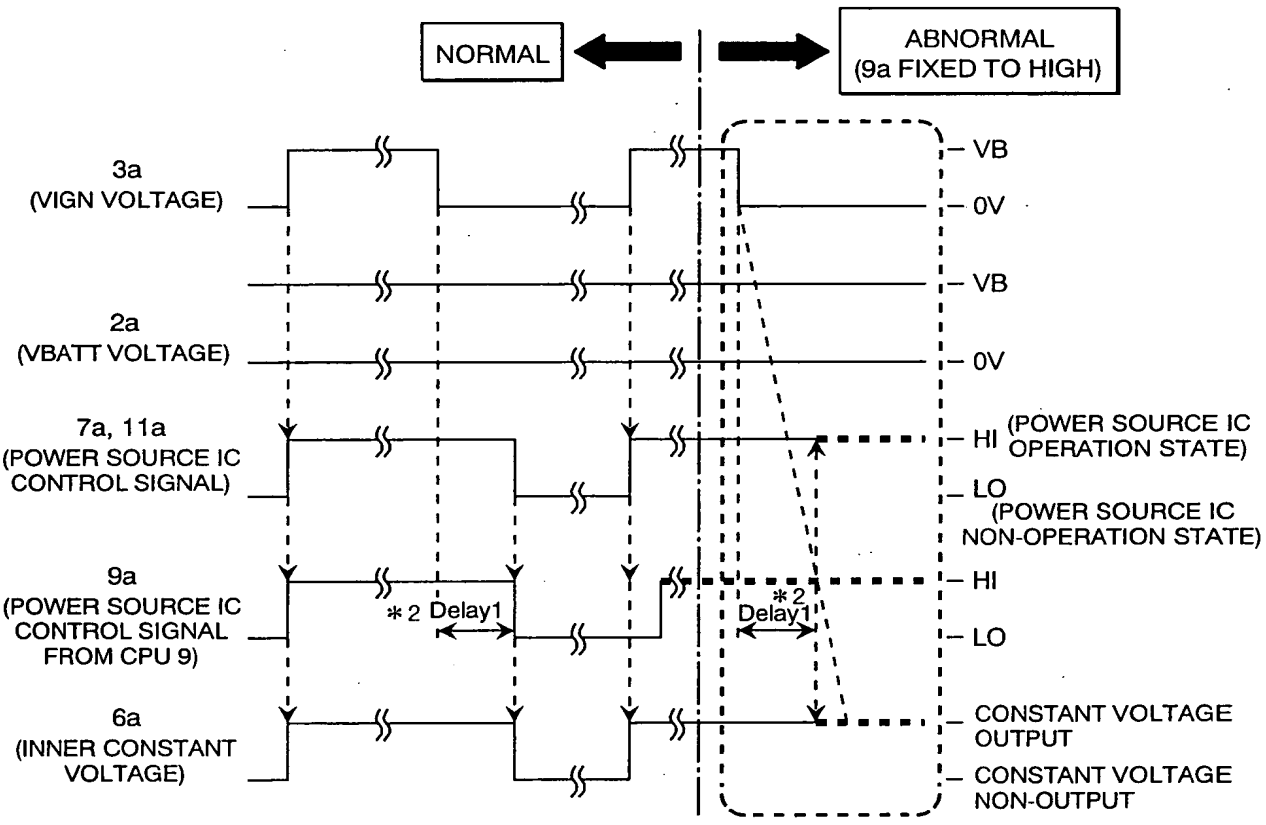


FIG. 15

PRIOR ART



*2 : DELAY TIME CALCULATED BY CPU 9